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HOFFMAN WARNICK LLC
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EXAMINER

FULK, STEVEN J

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RAMACHANDRA DIVAKARUNI
And JAY W. STRANE

Appeal 2009-006453
Application 10/707,388
Technology Center 2800

Decided: August 17, 2009

Before LINDA M. GAUDETTE, MICHAEL P. COLAIANNI, and
JEFFREY B. ROBERTSON, *Administrative Patent Judges*.

GAUDETTE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision finally rejecting claims 12-18 and 20 (Final Office Action, mailed Apr. 11, 2008), the only claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

STATEMENT OF THE CASE

Independent claims 12 and 20 are illustrative of the subject matter on appeal, and are reproduced from the Claims Appendix to the Appeal Brief (“Br.”), filed Sep. 8, 2008:

12. A resistor for a semiconductor device, the resistor comprising:

a silicide section positioned in a trough in one of a plurality of back-end-of-line (BEOL) layers; and

a polysilicon base positioned in the trough and below the silicide section;

wherein the silicide section has a silicidation temperature less than a damaging temperature of the plurality of BEOL layers.

20. A semiconductor device comprising:

a silicide resistor in one of a plurality of back-end-of-line (BEOL) layers, the silicide resistor including a silicide section having a silicidation temperature less than a damaging temperature of the plurality of BEOL layers and a polysilicon base positioned below the silicide sections;

wherein the silicide section and the polysilicon base are positioned in a trough in one of the plurality of back-end-of-line (BEOL) layers.

The Examiner relies on the following evidence to establish unpatentability (Examiner's Answer ("Ans."), mailed Dec. 11, 2008, 3):

Yoo US 6,168,984 B1 Jan. 2, 2001

Wolf, "Silicon Processing for the VLSI Era," Vol. 2, pp. 146, 176, 193 (1990).

Appellants request review of the following grounds of rejection (Br. 3)¹:

1. claims 12, 18, and 20 under 35 U.S.C. § 102(b) as anticipated by Yoo; and
2. claims 13-17 under 35 U.S.C. § 103(a) as unpatentable over Yoo in view of Wolf.

Appellants have not identified any particular claims as separately patentable with respect to either ground of rejection. Appellant's traversal of the Examiner's rejections is based on claim limitations common to both independent claims 12 and 20.

ISSUE

Have Appellants shown reversible error in the Examiner's finding that Yoo teaches a silicide resistor and a trough as claimed?

We answer this question in the negative.

FINDINGS OF FACT ("FF")

1. Appellants contend that the Examiner erred in finding that Yoo teaches a silicide resistor and a trough as claimed in claims 12 and 20. (Br. 5.)

2. With respect to the claimed "trough," Appellants contend that "[a] trough is defined as a channel. The opening [29] in Yoo is not a channel because it extends through layer 27." (Br. 5.) The Examiner responds by arguing that opening 29 in Yoo was formed by a well-known, dual damascene process, and includes both a trench, equivalent to

¹ The rejection of claims 12-18, and 20 under 35 U.S.C. § 112, second paragraph, has been withdrawn. (Ans. 3.)

Appellants' claimed trough, and a contact hole. (Ans. 8.) Appellants do not dispute this finding. (*See generally*, Br.)²

3. The Specification does not include a specific definition of the claim term "trough." The Specification states that "trough 10 may be made by patterning and etching in a conventional fashion." (Spec. [0016].)

4. With respect to the "resistor," Appellants contend that Yoo discloses a bitline structure, which is an electrical connection, not a resistor. (Br. 5.) The Examiner responds "that a resistor is well known in the art to also be an electrical connection, and therefore by Appellant's definition a bitline can be a resistor." (Ans. 8.) The Examiner further points out that Yoo's tungsten silicide bitline 30a/30c has a given resistivity and, therefore, is a resistor. (Ans. 8-9 (also noting that the claims do not recite a specific resistivity).) Appellants do not dispute these findings. (*See generally*, Br.)

5. The Specification does not include a specific definition of the claim term "resistor," but describes silicide resistors as using "lines of doped polysilicon to achieve the desired resistance." (Spec. [0002]; *see also*, Spec. [0004] ("[T]he silicide provides the desired resistivity.") and Spec. [0023] ("The resulting resistivity depends on the particular silicide formed.").)

PRINCIPLES OF LAW

During examination, claim terms must be given their broadest reasonable construction consistent with the Specification. *In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007). The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999). *See also, Prima Tek II, L.L.C. v.*

² We note that Appellants did not file a Reply Brief.

Polypap, S.A.R.L., 318 F.3d 1143, 1148 (Fed. Cir. 2003) (citations omitted) (“Generally, terms in a patent claim are given their plain, ordinary, and accustomed meaning to one of ordinary skill in the relevant art. After identifying the plain meaning of a disputed claim term, the court examines the written description and the drawings to determine whether use of that term is consistent with the ordinary meaning of the term.”)

“The anticipation analysis asks solely whether the prior art reference discloses and enables the claimed invention, and not how the prior art characterizes that disclosure or whether alternatives are also disclosed.” *Hewlett-Packard Co. v. Mustek Sys., Inc.*, 340 F.3d 1314, 1324 n.6 (Fed. Cir. 2003).

An Examiner's statement is accepted as true when an appellant fails to question its accuracy or to present contradicting evidence. *See, e.g., In re Fox*, 471 F.2d 1405, 1407 (CCPA 1973) (affirming the Board's decision: “In this court appellant has not denied the existence of the facts on which the examiner rested his obviousness rejection nor the added facts of which the board took judicial notice.”); *In re Kunzmann*, 326 F.2d 424, 425 n.3 (CCPA 1964) (“[T]he examiner appears to have considered thoroughly this assertion, and to have found otherwise. Since appellant has not shown this finding to be clearly erroneous, we accept it as fact.”).

ANALYSIS

Appellants' arguments in support of patentability are based on a narrow interpretation of the independent claims as limited to particular structures for the trough and resistor. However, Appellants have not directed us to any language in the Specification, or provided other evidence,

which establishes that the Examiner applied an overly broad interpretation of the disputed claim language. In our view, the Examiner set forth a reasonable basis for interpreting claims as encompassing Yoo's device. In particular, the Examiner's claim interpretation is based on specific findings regarding the knowledge and understanding of the ordinary artisan with respect to the terms "resistor" and "bitline" and the structure produced using the dual damascene process³ described in Yoo. Appellants have not disputed these findings or shown that the Examiner's interpretation is inconsistent with the manner in which the terms "resistor" and "trough" are used in the Specification and claims.

Based on the foregoing, we conclude that Appellants have not identified reversible error in the Examiner's finding that Yoo discloses a silicide resistor and a trough as claimed. Accordingly, we sustain the rejection of claims 12, 18, and 20 under 35 U.S.C. § 102(b) as anticipated by Yoo. Because Appellants' traversal of the Examiner's obviousness determination is similarly based on their assertion that Yoo fails to disclose "a silicide resistor in a trough as claimed" (Br. 5; *see also*, Ans. 9) we also sustain the rejection of claims 13-17 under 35 U.S.C. § 103(a) as unpatentable over Yoo in view of Wolf.

³ In this regard, we note that Appellants' use of the term "comprising" opens the claims to include additional structure, e.g., a contact hole below the trough.

CONCLUSION

We sustain both grounds of rejection. The decision of the Examiner rejecting claims 12-18, and 20 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED

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